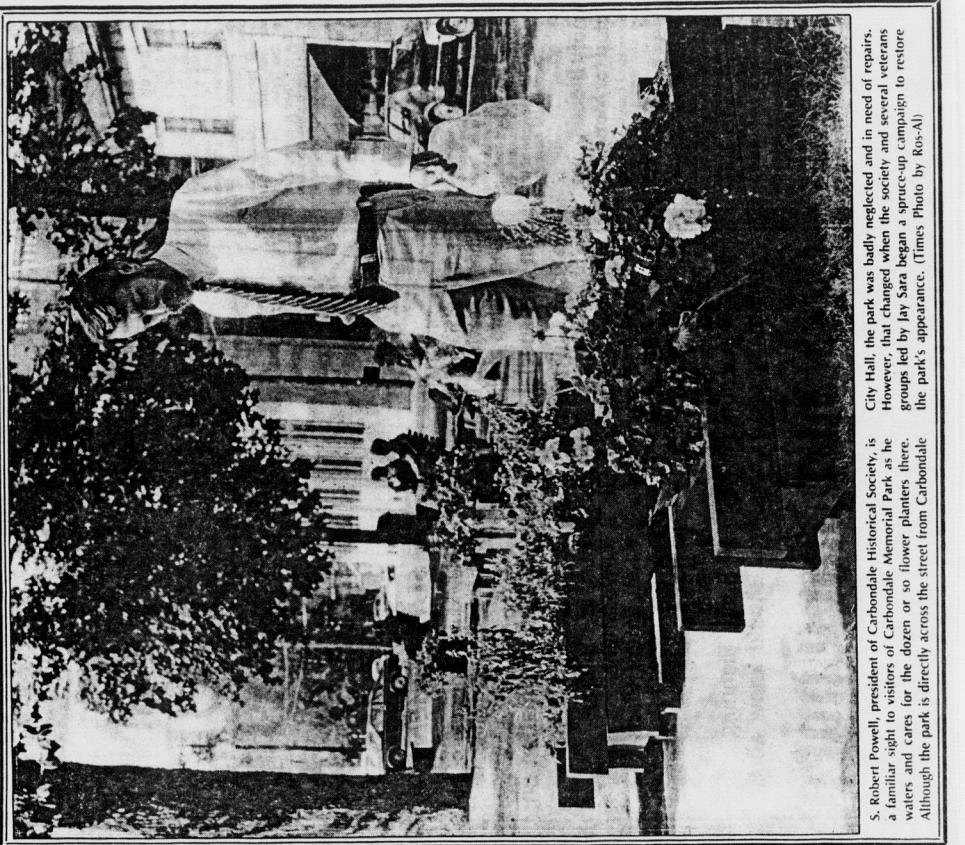


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The Age of Despair

Iambard Brunel (1769-1849) started work on a second Thames Tunnel. Even with the help of equipment not available to Trevithick, it took nearly twenty years to complete and was not opened until 1845 (Fig. 54).<sup>3</sup> In 1816 Trevithick anticipated the era of the export of British capital goods by embarking with a shipment of Cornish pumping engines for Peru. Ten years of wild adventures as engineer, prospector, soldier of the national liberation movement, and explorer in Peru, Chile and Costa Rica culminated in a hazardous crossing on foot, of the Isthmus of Nicaragua. In 1827 he returned penniless to his native Cornwall, where he was received in triumph. One of his last and unrealized projects was to design a column to celebrate the passing of the Reform Bill in 1832. One thousand feet high—more than five times the height of the Nelson Column—it was to be a 'gilded conical cast-iron monument', 100 feet in diameter at the base and 12 feet at the top. It would weigh a mere 6,000 tons and its cost, he thought, would be less than £50,000. His roving imagination, his boundless belief in the ability of man's genius to overcome all obstacles and solve all problems, combined with an enduring sense of frustration and pessimism, made him as much part of the age of Byron and Shelley as James Watt's complacent certainty that all was well made him part of the age of reason.

The Railway Age may be said to have started with the opening of the Liverpool and Manchester Railway in 1830, the Steamship Age with the regular transatlantic service in 1838 from Bristol to New York, inaugurated by King Edward I's bard Brunel's s.s. *Great Western*. What Trevithick, John Blenkinsop (1785-1851), Matthew Murray (1766-1826), George Stephenson and some of the other early engineers did for the steam locomotive, William Symington (1765-1851), Robert Fulton (1765-1815) and Henry Bell (1767-1850) did for the marine engine, Bell launched his steamboat *Comet* on the Clyde in 1811 and started a steamer ferry service between Glasgow and Greenock in 1821. William Daniell sketched her in 1813 for inclusion in his *Voyage round Great Britain* (Fig. 49).

The design and manufacture of high-pressure engines and boilers for locomotives and ships and to drive machines of all kinds could only proceed if the

by 1850 most of the main types of machine-tools still in use to this day had been

evolved by a brilliant generation of mechanical engineers. They included Henry Maudslay (1771-1851), Joseph Clement (1779-1844) and Joseph Bramah (1748-1814) of London, James Fox (1789-1859) of Derby, Matthew Murray of Leeds, and Richard Roberts (1798-1864) and Sir Joseph Whitworth (1803-87) of Manchester. James Nasmyth (1808-90), son of Alexander Nasmyth, the Edinburgh

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at dangerous in making this 8" x 10"  
black & white glossy print of this  
photograph from his original negative.

Robert Browning (1812-1889)

HOME-THOUGHTS FROM ABROAD

1845

On to be in England,  
Now that April's there,  
And who ever wakes in England,  
Sees some morning, in April,  
The sun, the birds, and the brushwood,  
Round the elm-tree hole are in tiny leaf,  
Sheaf 5  
That sheaf  
Round the elm-tree hole are in tiny leaf,  
While the lark sings on the orchard bough  
In England, now!

2

And after April, when May follows,  
And the thorn-bushes, and all the swallows,  
Hark, where my blossomed peat-tree in the  
hedge 10  
Leans to the field and scatters on the clover  
Blossoms to the clover—  
The best spray's  
edge—she thrushes sing each song twice  
over.

Less I should think he never could recapture.

13  
The first fine cardinals raptured  
And sang the birds look rough with hoary  
feathers.

All will be gay when mornide wakes anew

The butterflies, the little dragonflies, the flower! 10  
—Far brighter than this gay golden flower!

At the funeral of Sir Winston (Leonard Spencer) Churchill (1874-1965),

as his body floated in state, on a barge, down the Thames River, Dartford

Eisenhower read 'Crossing the Bar' as the world wept.

Thank you.

DWP